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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/831,450	05/10/2001	Masatoshi Yamazaki	Q64418	4274

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EXAMINER

NGUYEN, CAM N

ART UNIT	PAPER NUMBER
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1754

DATE MAILED: 02/06/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
09/831,450

Applicant(s)
Yamazaki et al.

Examiner
Cam Nguyen

Art Unit
1754



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE three MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on May 10, 2001
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on May 10, 2001 is/are a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some* c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- *See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 6) ☐ Other:

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DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

A certified copy of the document filed on 10/09/1999 in JAPAN (11-257863) has been received.

Claim Objections

2. Claims 1-3 are objected to because of the following informalities:
- A. In claim 1, line 6-7, --wherein-- should be inserted after "aluminum oxide support;"
 - B. In claim 1, line 8, "being" should be --is--.
 - C. In claim 1, line 8, " ; " should be -- , --.
 - D. In claim 1, line 9, "being" should be --is--.
 - E. In claim 1, line 9, -- , -- should be inserted before "and".
 - F. In claim 1, line 10, "being" should be --is--.
 - G. In claim 3, line 6, --wherein-- should be inserted after "rare earth;"
 - H. In claim 3, line 8, "being" should be --is--.
 - I. In claim 3, line 8, " ; " should be -- , --.
 - J. In claim 3, line 9, "being" should be --is--.

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- K. In claim 3, line 9, -- , -- should be inserted before "and".
- L. In claim 3, line 10, "being" should be --is--.
- M. In claim 3, line 11, -- , -- should be inserted before "supported".

Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brezny (US Pat. 5,919,727) *in view of* Domesle et al., "hereinafter Domesle", (US Pat. 5,958,829).

Brezny discloses a composite powder containing cerium oxide and at least one other non-noble metal oxide in solid solution (see col. 2, ln 24-25). Suitable non-noble metal oxides include zirconia, yttria, lanthanides, actinide, and combinations thereof (see col. 2, ln 38-44). The powders having a surface area of about 60 m²/g; an oxygen storage capacity of the particles, up to about 700°C, is about 200 umol/g to about 600 umol/g, with an average of about 510 umol/g; and an oxygen storage capacity of particles, up to about 1000°C, is about 500 umol/g to about 1200 umol/g, with an average of about 1040 umol/g (see col. 2, ln 66- col. 3, ln 8). See

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also col. 3, ln 9-18. Brezny further discloses the composition is coated onto a substrate and has a noble metal catalyst deposited onto the composition (see col. 6, claim 14).

Brezny is silent with respect to the aluminum oxide support. However, it would have been *prima facie obvious* to one of ordinary skill in the art at the time the invention was made to have utilized aluminum oxide support in Brezny to obtain a supported catalyst having the advantage as disclosed in Domesle, which is an improved light-off performance, high conversion rates when the catalyst is warm from use and high long-term activity (see Domesle at col. 4, ln 66- col. 5, ln 1-2) because aluminum oxide is a well known and useful catalyst support as evidenced by Domesle (see Domesle at col. 6, ln 37-38 & col. 20, claim 9).

Regarding the claimed specific surface area, it is met by the teaching of the reference since it falls within the disclosed range (see Brezny at col. 2, ln 66- col. 3, ln 8).

Regarding the claimed oxygen storage capacity at 400°C and at 700°C, it is considered the claims are met by the teaching of the reference because Brezny teaches an oxygen storage capacity of the particles, up to about 700°C, is about 200 $\mu\text{mol/g}$ to about 600 $\mu\text{mol/g}$ (see Brezny at col. 2, ln 66- col. 3, ln 8). The phrase “up to about 700°C” encompasses the claimed “400°C” and “700°C”.

With respect to the product-by-process limitation in claim 2, it appears that the “sintering temperature condition of between 800 and 1100°C” is a process limitation. However, Brezny discloses after aging the composite powder at up to about 1000°C, the particles have a surface area of about 1 m^2/g to about 50 m^2/g , and the aged particles have an oxygen storage capacity, up

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to about 700°C, of about 300 umol/g to about 500 umol/g, with an average of about 400 umol/g, and an oxygen storage capacity up to about 1000°C, of about 500 umol/g to about 1200 umol/g, average about 670 umol/g (see Brezny at col. 3, ln 9-17). The claimed temperature is met by the reference since the disclosed temperature falls within the claimed temperature range.

Citations

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Chopin et al. (US Pat. 5,693,299), Chopin et al. (US Pat. 5,532,198), Bonneau et al. (US Pat. 5,908,800), Chopin et al. (US Pat. 5,712,218), Chopin et al. (US Pat. 5,607,892), Chopin et al. (US Pat. 5,883,037), Chopin et al. (US Pat. 5,626,826), Blanchard et al. (US Pat. 5,352,646), Wu et al. (US Pat. 6,107,240), Domesle et al. (US Pat. 5,496,788), Suzuki et al. (US Pat. 6,150,288), Wan et al. (US Pat. 4,738,947), Qin et al. (US Pat. 6,107,239), Suzuki et al. (US Pat. 6,306,794 B1), Hu et al. (US Pat. 5,597,771), Brezny (US Pat. 6,051,529), Lindner et al. (US Pat. 6,180,075 B1), Mussmann et al. (US Pat. 6,294,140 B1), & Wan et al. (US Pat. 4,714,694) are cited for related art.

Conclusion

6. Claims 1-3 are pending. Claims 1-3 are rejected. No claims are allowed.


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7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Cam Nguyen, whose telephone number is (703) 305-3923. The examiner can normally be reached on M-F from 8:30 am. to 6:00 pm, with alternative Monday off.

The appropriate fax phone number for the organization where this application or proceeding is assigned is (703) 872-9310 (before finals) and (703) 872-9311 (after-final).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Nguyen/cnn *CNN*
February 04, 2003


Cam Nguyen
Patent Examiner